

JUNE 6, 1921

Issued Weekly

PRICE 15 CENTS

AVIATION AND AIRCRAFT JOURNAL



Start of the National Balloon Race, Won by Ralph Upson

VOLUME X
Number 23

SPECIAL FEATURES

RALPH UPSON WINS NATIONAL BALLOON RACE
THE FOKKER F.III 6-SEATER MONOPLANE
"WHO'S WHO IN AMERICAN AERONAUTICS"
THE DORNIER C.III CABIN AIRPLANE
SECRETARY WEEKS ON AVIATION EXPENDITURES

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VOL. X, NO. 23

Member of the Audit Bureau of Circulations

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THE GARDNER, MOFFAT COMPANY, Inc., Publishers

HIGHLAND, N. Y.

225 FOURTH AVENUE, NEW YORK

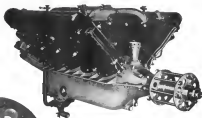
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Span	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-100	100-105	105-110	110-115	115-120	120-125	125-130	130-135	135-140	140-145	145-150	150-155	155-160	160-165	165-170	170-175	175-180	180-185	185-190	190-195	195-200	200-205	205-210	210-215	215-220	220-225	225-230	230-235	235-240	240-245	245-250	250-255	255-260	260-265	265-270	270-275	275-280	280-285	285-290	290-295	295-300	300-305	305-310	310-315	315-320	320-325	325-330	330-335	335-340	340-345	345-350	350-355	355-360	360-365	365-370	370-375	375-380	380-385	385-390	390-395	395-400	400-405	405-410	410-415	415-420	420-425	425-430	430-435	435-440	440-445	445-450	450-455	455-460	460-465	465-470	470-475	475-480	480-485	485-490	490-495	495-500	500-505	505-510	510-515	515-520	520-525	525-530	530-535	535-540	540-545	545-550	550-555	555-560	560-565	565-570	570-575	575-580	580-585	585-590	590-595	595-600	600-605	605-610	610-615	615-620	620-625	625-630	630-635	635-640	640-645	645-650	650-655	655-660	660-665	665-670	670-675	675-680	680-685	685-690	690-695	695-700	700-705	705-710	710-715	715-720	720-725	725-730	730-735	735-740	740-745	745-750	750-755	755-760	760-765	765-770	770-775	775-780	780-785	785-790	790-795	795-800	800-805	805-810	810-815	815-820	820-825	825-830	830-835	835-840	840-845	845-850	850-855	855-860	860-865	865-870	870-875	875-880	880-885	885-890	890-895	895-900	900-905	905-910	910-915	915-920	920-925	925-930	930-935	935-940	940-945	945-950	950-955	955-960	960-965	965-970	970-975	975-980	980-985	985-990	990-995	995-1000
Length	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-100	100-105	105-110	110-115	115-120	120-125	125-130	130-135	135-140	140-145	145-150	150-155	155-160	160-165	165-170	170-175	175-180	180-185	185-190	190-195	195-200	200-205	205-210	210-215	215-220	220-225	225-230	230-235	235-240	240-245	245-250	250-255	255-260	260-265	265-270	270-275	275-280	280-285	285-290	290-295	295-300	300-305	305-310	310-315	315-320	320-325	325-330	330-335	335-340	340-345	345-350	350-355	355-360	360-365	365-370	370-375	375-380	380-385	385-390	390-395	395-400	400-405	405-410	410-415	415-420	420-425	425-430	430-435	435-440	440-445	445-450	450-455	455-460	460-465	465-470	470-475	475-480	480-485	485-490	490-495	495-500	500-505	505-510	510-515	515-520	520-525	525-530	530-535	535-540	540-545	545-550	550-555	555-560	560-565	565-570	570-575	575-580	580-585	585-590	590-595	595-600	600-605	605-610	610-615	615-620	620-625	625-630	630-635	635-640	640-645	645-650	650-655	655-660	660-665	665-670	670-675	675-680	680-685	685-690	690-695	695-700	700-705	705-710	710-715	715-720	720-725	725-730	730-735	735-740	740-745	745-750	750-755	755-760	760-765	765-770	770-775	775-780	780-785	785-790	790-795	795-800	800-805	805-810	810-815	815-820	820-825	825-830	830-835	835-840	840-845	845-850	850-855	855-860	860-865	865-870	870-875	875-880	880-885	885-890	890-895	895-900	900-905	905-910	910-915	915-920	920-925	925-930	930-935	935-940	940-945	945-950	950-955	955-960	960-965	965-970	970-975	975-980	980-985	985-990	990-995	995-1000
Wingspan, wings	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-100	100-105	105-110	110-115	115-120	120-125	125-130	130-135	135-140	140-145	145-150	150-155	155-160	160-165	165-170	170-175	175-180	180-185	185-190	190-195	195-200	200-205	205-210	210-215	215-220	220-225	225-230	230-235	235-240	240-245	245-250	250-255	255-260	260-265	265-270	270-275	275-280	280-285	285-290	290-295	295-300	300-305	305-310	310-315	315-320	320-325	325-330	330-335	335-340	340-345	345-350	350-355	355-360	360-365	365-370	370-375	375-380	380-385	385-390	390-395	395-400	400-405	405-410	410-415	415-420	420-425	425-430	430-435	435-440	440-445	445-450	450-455	455-460	460-465	465-470	470-475	475-480	480-485	485-490	490-495	495-500	500-505	505-510	510-515	515-520	520-525	525-530	530-535	535-540	540-545	545-550	550-555	555-560	560-565	565-570	570-575	575-580	580-585	585-590	590-595	595-600	600-605	605-610	610-615	615-620	620-625	625-630	630-635	635-640	640-645	645-650	650-655	655-660	660-665	665-670	670-675	675-680	680-685	685-690	690-695	695-700	700-705	705-710	710-715	715-720	720-725	725-730	730-735	735-740	740-745	745-750	750-755	755-760	760-765	765-770	770-775	775-780	780-785	785-790	790-795	795-800	800-805	805-810	810-815	815-820	820-825	825-830	830-835	835-840	840-845	845-850	850-855	855-860	860-865	865-870	870-875	875-880	880-885	885-890	890-895	895-900	900-905	905-910	910-915	915-920	920-925	925-930	930-935	935-940	940-945	945-950	950-955	955-960	960-965	965-970	970-975	975-980	980-985	985-990	990-995	995-1000
Wingspan, wings	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-100	100-105	105-110	110-115	115-120	120-125	125-130	130-135	135-140	140-145	145-150	150-155	155-160	160-165	165-170	170-175	175-180	180-185	185-190	190-195	195-200	200-205	205-210	210-215	215-220	220-225	225-230	230-235	235-240	240-245	245-250	250-255	255-260	260-265	265-270	270-275	275-280	280-285	285-290	290-295	295-300	300-305	305-310	310-315	315-320	320-325	325-330	330-335	335-340	340-345	345-350	350-355	355-360	360-365	365-370	370-375	375-380	380-385	385-390	390-395	395-400	400-405	405-410	410-415	415-420	420-425	425-430	430-435	435-440	440-445	445-450	450-455	455-460	460-465	465-470	470-475	475-480	480-485	485-490	490-495	495-500	500-505	505-510	510-515	515-520	520-525	525-530	530-535	535-540	540-545	545-550	550-555	555-560	560-565	565-570	570-575	575-580	580-585	585-590	590-595	595-600	600-605	605-610	610-615	615-620	620-625	625-630	630-635	635-640	640-645	645-650	650-655	655-660	660-665	665-670	670-675	675-680	680-685	685-690	690-695	695-700	700-705	705-710	710-715	715-720	720-725	725-730	730-735	735-740	740-745	745-750	750-755	755-760	760-765	765-770	770-775	775-780	780-785	785-790	790-795	795-800	800-805	805-810	810-815	815-820	820-825	825-830	830-835	835-840	840-845	845-850	850-855	855-860	860-865	865-870	870-875	875-880	880-885	885-890	890-895	895-900	900-905	905-910	910-915	915-920	920-925	925-930	930-935	935-940	940-945	945-950	950-955	955-960	960-965	965-970	970-975	975-980	980-985	985-990	990-995	995-1000
Wingspan, wings	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60	60-65	65-70	70-75	75-80	80-85	85-90	90-95	95-100	100-105	105-110	110-115	115-120	120-125	125-130	130-135	135-140	140-145	145-150	150-155	155-160	160-165	165-170	170-175	175-180	180-185	185-190	190-195	195-200	200-205	205-210	210-215	215-220	220-225	225-230	230-235	235-240	240-245	245-250	250-255	255-260	260-265	265-270	270-275	275-280	280-285	285-290	290-295	295-300	300-305	305-310	310-315	315-320	3																																																																																																																																							



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Power at 2000 R.P.M.	200 H.P.	250 H.P.
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NOTE—The power given is the rated and power, many selected engines give higher power and lower consumption.

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Vol. X

JUNE 4, 1933

No. 33

The Question of the Helicopter

THE helicopter forces beyond any doubt the question of the day. Experiments are now going on with this type of aircraft abroad as well as in this country, although the French experimenters appear to be more sanguine in their experiments as to success in the line of development than others. In connection with this pioneer work, it is rather remarkable to see how history repeats itself under an altogether new, yet natural idea is concerned.

Some fifteen years ago well known scientists proved mathematically that mechanical flight was an impossibility, although the Wright brothers had flown in 1903. Then, when the first straight-away flights were made in public, the same experts declared that while airplanes could lift their weight from the ground, they would never be capable of making turns or otherwise achieving stability.

Today we hear arguments of about the same sort with reference to the helicopter. The possibility of direct lift is no longer denied, for the simple reason that half a dozen helicopters have done that from 1895 on, and one even reached a height of about 150 ft. with three men on board. The hitherto apparent new question around the alleged impossibility for helicopters to travel in a horizontal plane like the airplane.

In view of a recent report that during recent trials of a French helicopter the machine succeeded in flying a horizontal path, it is interesting to hear as this connects the opinion of a man who is well known in English speaking countries as a distinguished investigator of propeller problems—M. A. S. Bish. It should be noted that whereas the helicopter derives its total lift from rotating aerofolios, or propellers, the whole question of direct lift is such near within the province of propeller experts that of aerofolios investigation.

In an article contributed to *Aeronautics* Mr. Bish points out that "it is well within the possibilities of engineering to construct a helicopter which shall not only be capable of rising and descending vertically, but which shall possess an additional characteristic of extreme horizontal speed judged by the characteristics of ordinary horizontal speed judged by airplane performance." Mr. Bish mentions trying that there is a definite potential limit to the maximum speed of airplanes, beyond which a considerable amount of engine power is required to increase the speed by any appreciable amount, and that this feature may be considered inherent in the airplane.

He goes on showing that a helicopter weighing 2000 lb. would require only a lifting thrust of 2 lb. in excess of its weight in order to produce a tractive force of 96 ft. This means that while a total lifting thrust of 2000 lb. would only just support the machine in the air hovering, an extra lift of only 2 lb. would be sufficient to produce a tractive force in a horizontal direction of 96 ft., corresponding to a high speed through the air horizontally. This remarkable feature of the helicopter indicates, according to Mr. Bish, that there may exist outside

for high speed quite different of those which govern airplane flight and possible permitting of flight speeds immensely greater than those so far attained by airplanes.

It will be interesting to see whether practical experiments will bear out Mr. Bish's theories. It cannot be denied that, from the theoretical viewpoint of my note, the helicopter possesses some very striking features, and among which are its ability to hover and to land and take-off without any ground-run. These features alone would make of the helicopter a valuable instrument for study military observation, such as is now performed by captive balloons. If the helicopter could, in addition to these characteristics, achieve high horizontal speeds, it would become a serious competitor of the airplane. But this has yet to be demonstrated.

Now it seems to us that the question of the helicopter should be treated dispassionately, whether one "believes" in it or not. Theoretical dissertations have as yet a limited value, for the helicopter is still in its infancy. Only practical results can give the solution of the problem.

Balloon Racing

WE have often in the past mentioned in these columns on the value of balloon racing. The National Balloon Race which was won by Ralph Upton and G. G. Anders affords a renewed proof of how balloon racing does not merely consist of drifting with the wind, if there be any, and looking over the basket to guess the course—a so popularly believed.

Knowledge of aerostatics plays almost a secondary role in a balloon race, for the proper handling of an aerial craft does not require an accurate amount of skill. To paraphrase a saying that was famous in the early days of flying, "ballooning is air." Now the team that won the National Balloon Race, finished further away from the starting point just because it knew best how to "keep the balloon going"—and this was mainly, as it is in many cases out of the question of finding and striking the most favorable air currents.

The sport of ballooning furnishes the aviator with an unparalleled opportunity for increasing his knowledge of the weather through ever changing phenomena. Like the weather, the aviator learns to "read the clouds"—a knowledge which is far less frequent among aviators, although the latter should be that in leading in the science, for airplanes can only travel faster than balloons, they travel through the atmosphere often against head winds or cross currents and so they are likely to meet weather conditions which they did not expect on taking off.

It is probable that with the experience of wind currents the study of weather will assume a much greater importance with time than it now does.

to increase their natural rate of fire. Liberal and indiscriminate use of the various kinds of special aircraft ammunition—tracer, armor-piercing, and incendiary—which had been developed by this time, together with that of machine type, which apparently offered, perhaps after the comparatively slow firing rate of the guns employed.

American Aircraft Gun

When this country declared war we had neither surplus nor equipment for them, and so plans were at once made for production of both. Vickers and Lewis guns, both in use on the ground, were being produced in this country. The latter, however, at that time for the British Government. The greatest cry from abroad was for manufacture of these two guns in the extension of all others, as they had been proved in



THIS LEWIS GUN ARRANGEMENT IN A TWO-SEATER FIGHTER

combat and could be readily adapted to aircraft use. In the case of the Lewis gun this was done. The British orders were soon completed and then as rapidly as possible production of aircraft type guns for our own forces was begun and this was continued until the American Production of the Vickers gun was also sustained and as soon as possible was diverted to guns of the aircraft type. It soon became apparent, however, that more guns for synchronized use would have to be produced. No other source of early production of the Vickers gun was available, and so it was decided to begin production of the Martin, a new gun developed from the old Colt ground-type machine gun. Several thousand of these were turned out and many American planes at the front were armed with them. The Americans did fight with other Vickers or Martin guns, and his observers with the Lewis. Before the American production of the Browning Aircraft Gun, a modification of the famous Browning ground-type gun had been started, but none of these were received in the front before the cessation of hostilities.

The question as to which is the best machine gun is frequently asked, although most often by those who vaguely assume to that weapon but two main characteristics—one being that it pours forth a stream of bullets at a terrible rate (the more terrible the better) and the other that at the most inopportune moment it always jams, whether that jamming is caused by the best machine gun, or otherwise. Any one who has been in a hot automobile. It is impossible to compare guns in general, but when the one to which they are to be put is specified there is some basis for comparison. That is in the case of the Lewis gun, which is a hot one. Beyond question it is because there is only one, the Lewis. Tactful developments of the war seemed to divide the requirements for flexible and synchronized guns very sharply, and in all the Allied forces the Lewis was adopted for flexible. Its characteristics

of magazine feeding, segment construction, and light weight fitted it admirably for this service, but as a synchronized gun it is worthless. The Vickers was the poorest synchronized gun, and in still less degree was the other type. The only type developed in this country has their advantages, however, is also have their drawbacks, and their deficiencies are, in fact, as, beyond doubt to the fact that these guns are all adaptations of similar guns built on the ground. The only type of factory production of the requirements for aircraft weapons can be obtained only by original design based squarely on these requirements, which, by the way, are now very definitely known. The designer, however, in this case, is not a machine, can never give the best results, and while they cannot be avoided under no conditions, they should not be permitted to occupy an important place in post-war development.

General Requirements of Aircraft Machine Gun

Even though the synchronizing gear brought about the division of aircraft guns into classes, experience has shown that there are certain general requirements, which the most all meet if they are to give satisfactory service. The first of these is positive and dependable operation. Failure of the gun at critical moments in combat is almost certain to be fatal in results to both plane and crew, hence the weapons need most depend on reliability and certainly when called upon. They must do this, moreover, in spite of many adverse conditions such as extreme cold, moisture, vibration and unevenness of the plane, and shaking, which may place them in any position except the normal horizontal one, and mechanical maintenance by the owner in the remotest of combat. Another very important feature is speed in firing, on the ground a firing rate of more than four or five hundred shots per minute is not considered especially useful, but in the conditions of combat are such that a rate twice as high is a distinct advantage. Even higher rates might be obtained, but experience has shown that there are considerable of reliable operation which is always sacrificed in obtaining excessive speed, and ammunition supply which is necessarily limited. A rate range of from 600 to 1200 rounds per minute is probably satisfactory, as a compromise between these conflicting requirements. These are the two most important features. Other secondary ones, such as light weight, compactness, simplicity of construction, and ease of maintenance, and repair, are almost self-evident and need no comment, applying to this, do all classes of automatic arms.

There are various special requirements applicable to each of the two classes of guns, but these, except the rate concern only the designer and firing mechanism. A synchronized gun, of feeding system (usually, but the flexible gun, while the synchronized gun is fed by belt in order to obtain greater ammunition capacity. Numerous attempts to use a belt fed gun, however, have been made, and under the German and a gun of this style—the Parabellum—as their standard flexible weapons. The difficulties in this connection are mostly those of mounting and, although an far superior in its use, the Lewis gun has been developed for air service, it is that in these arrangements for using the standard synchronized gun in this way will be perfected. The advantages of such a system in which only one style of gun would be used in all cases, however, are obvious and explain the continued efforts in this direction.

Synchronized guns must be equipped with firing mechanisms which set very quickly, whereas flexible guns are set back in this respect. In the case of the Lewis gun, it is the use of the quick-acting firing mechanism by the flexible gun, and so the project of converting the design of these two types is not adversely affected by this consideration. It seems probable, however, that progress in this direction will come by adopting improved designs of synchronized guns to flexible use rather than the reverse.

Failure of the Aircraft Gun

That, what of the failure aircraft machine gun? This question is not answered by the specifications for the gun, but it is a question of the construction of the designer of development and also somewhat of warlike consideration. The provision of all the desirable characteristics described above will not in itself produce a full development of the gun. The gun must be built for its place in the plane as well, and

especially in the case of synchronized guns there is a great deal of room for improvement in this direction. These guns are now generally used in pairs, and in order to provide a workable regulation it is extremely desirable to have all parts of the gun of similar design, and of similar material. The feeding and ejection system and synchronizing gear arranged symmetrically with respect to the axis of the machine. The most important point in providing this symmetrical mounting is provision of means for adjusting right and left hand feeding of the ammunition belt. Rotation of the empty belt rails will naturally be free from the side opposite to that of the belt stop, and special will probably be free from the bottom. This feature has already been obtained in Vickers guns, and in of such value that no new designs of this type of weapon in the same caliber can be considered complete without it. Other similar features, such as corresponding provision for adjusting right or left hand location of the synchronizing mechanism, all operating handles go naturally with the alternate feeding arrangement and round out the idea of symmetry for the whole installation. Asymmetry of the working parts, with special action of the feed that the pistol is located behind and between the guns is also very important. The pilot must do many things at once and at best can never work on his gun with more than one hand and still keep control of his machine, hence the necessity for making the one-hand first- and second-ary as easy and convenient as possible for the only fighter who can win or lose alone. Many other advantageous features might be included, but these are the most important ones, and when these are provided the difficult part of the problem will be solved.

Up to the present, aircraft machine guns have been built at service small gun caliber only, but there is considerable reason that heavier calibers will be needed for attack at armed planes. Such weapons would have enabled Major Lafferty to succeed successfully the "dying tank" that shot him down in the face of the fact that no plane had ever before been able to do this. The development of armor for aircraft demands the production of a weapon which the armor cannot withstand, but in the neglect the advantage is with the gun, because of the greater weight and expense of the armor. The development of such a weapon capable of piercing even so much of armor has been developed and tested, although that has none have been mounted in an airplane. In these and the principle of the use of the machine gun in the air, and other have been followed, so that the result is to make a super-machine gun. If the war is to be decided in the air it is not beyond the bounds of possibility that the machine gun, supported on a gun, will be the most important thing of all the weapons that have been made in the war.

First Group (Parent), Air Service

Division 63 of the War Department this year designated the new group as the First Parent Group as the "First Group." Another change incorporated within the group is that whereby the 24th Parent Squadron is now known as the 17th Parent Squadron. The group is very large, and the First Parent Group organization from the historical standpoint, yet in view of the fact that the 17th is especially famous for its work, there is no material difference in the change of number and name.

The First Parent Group was organized early in January, 1920, under Major H. M. Atkinson, Capt. Philip J. Russell, and Capt. J. H. Rankin. Traveling up and down the Pacific coast, the group has been very active in the development of the machine gun in the hands of aviation history and was really the basis for the subsequent and present development and organization of parent in the U. S. Air Service. The 17th Squadron, composed of the 6th, 66th, 14th and 25th, it is known as the 17th Squadron. It fought hard, long and gloriously and ended up with a wonderful record and with particularly successful flight leaders who brought down a machine gunner in the hands of the machine gunner. A record of the history is enough to make one's blood tingle.

With the incorporation, therefore, of the 17th in place of the 24th the First Parent Group (Parent), merely represents the history of the machine gun in the hands of aviation history.

In this connection, under the change in the lettering division

by the War Department, several famous parent organizations will be incorporated into this group although they are never to be forgotten. In particular the old Lafayette which became the American division 102nd in part these members too high to come under the same category cover the 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st, 32nd, 33rd, 34th, 35th, 36th, 37th, 38th, 39th, 40th, 41st, 42nd, 43rd, 44th, 45th, 46th, 47th, 48th, 49th, 50th, 51st, 52nd, 53rd, 54th, 55th, 56th, 57th, 58th, 59th, 60th, 61st, 62nd, 63rd, 64th, 65th, 66th, 67th, 68th, 69th, 70th, 71st, 72nd, 73rd, 74th, 75th, 76th, 77th, 78th, 79th, 80th, 81st, 82nd, 83rd, 84th, 85th, 86th, 87th, 88th, 89th, 90th, 91st, 92nd, 93rd, 94th, 95th, 96th, 97th, 98th, 99th, 100th, 101st, 102nd, 103rd, 104th, 105th, 106th, 107th, 108th, 109th, 110th, 111th, 112th, 113th, 114th, 115th, 116th, 117th, 118th, 119th, 120th, 121st, 122nd, 123rd, 124th, 125th, 126th, 127th, 128th, 129th, 130th, 131st, 132nd, 133rd, 134th, 135th, 136th, 137th, 138th, 139th, 140th, 141st, 142nd, 143rd, 144th, 145th, 146th, 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Landing Field Notes

It has long been apparent that New England is adverse to the subconscient development of the fact that many of her sons enlisted in the air forces during the war. This has been due primarily to the lack of fields and also to the natural characteristics of the country. In the West sweeping plains offer immediate landing space. In New England, if it isn't a wood, it is a plowed field bounded by a stone wall that prevents the aviator who is obliged to make a forced descent because of engine trouble. Naturally these conditions have not been conducive to flying so that aviation activities in New England are few and far between.

There is yet to be laid out a route between Boston and New York, a vital link in any military plan. There should be a separate base for air and sea planes on Narragansett Bay, and others near Boston and Springfield, and landing fields at several points on the route to New York.

Boston, Mass.

The question of obtaining a suitable landing field for Boston has long been agitated. It was mentioned in the issue of *AVIATION* and *AIRCRAFT JOURNAL* for May 23 that the Boston Chamber of Commerce was backing a proposition to turn into a landing field a 70-acre plot of filled-up land at South Boston between City Point and Castle. This project is however squaring with difficulties owing to objections raised by certain city officials.

While the question of a municipal air port is still in the air, it seems probable that Boston will before long have a first rate Army flying field, provided Congress funds the urgent request of the War Department and appropriates the necessary funds.

The Army Air Service proposes to acquire for this purpose part of the estate of Peter B. Bradlee. The field comprises sixty-five acres; it is two miles north of East Weymouth proper and is bounded on the west and north by the Weymouth "back river," which empties into Hingham Bay immediately below. Its frontage on the North Weymouth-Hingham road, where the Boston Plymouth electric car line runs, is 1,600 yards, thus offering ample room for the first project planes to land and takeoff safely. It will be necessary for the Government to acquire certain beach rights if necessary should be constructed for airplanes. The estimated expense, \$200,000, will include the cost of erecting hangars, quarters for officers and enlisted men and the many details necessary to any such undertaking.

At the present time the Army air station moved to Boston is a leased emergency field at Framingham, which was created in April, 1930. Although small, this field has served many air service activities, particularly military maneuvers, and aerial photography. The base at Framingham Field occupies Nos. 22 of this year.

It is possible that this field will be transferred by the Army to the Massachusetts National Guard if the State Legislature withholds the establishment of a National Guard Aero Squadron. Many former officers of the 94th, 80th, 47th and 37th Aero Squadrons, which formed the First Pursuit Group, A.E.F., have signified their readiness to serve in this squadron, should it be formed.

Chelsea, Mass.

Confidential proceedings against 50 parcels of land in Massachusetts recently sought by the Navy Department for use as the Chelsea naval air station, have been initiated in the United States district court at Boston by the government.

Because the owners of the land are not known the government has been unable, according to the petition filed, to obtain clear title to the properties.

Under the urgent deficiency act Congress has appropriated \$75,000 for the purchase of the land, the petition says. It is asked that a jury be called to determine the number of 51 parcels and on what work may be started on the field.

Richmond, Va.

The State Fair Association of Richmond, Va., announced that the State Fair Grounds may be used as an emergency landing field provided it does not interfere with the exhibitors.

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